12086500 NISQUALLY RIVER AT LA GRANDE, WA

Puget Sound Basin
Nisqually Subbasin

LOCATION.--Lat 46°50′37″, long 122°19′46″ referenced to North American Datum of 1927, in NW ¼ SE ¼ sec.29, T.16 N., R.4 E., Pierce County, WA, Hydrologic Unit 17110015, on right bank 0.4 mi downstream from Tacoma Public Utilities powerplant, 0.6 mi northwest of La Grande, 0.8 mi upstream from Mashel River, and at mile 40.4.

DRAINAGE AREA.--292 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1906 to October 1911, November to December 1911 (gage heights only), October 1919 to September 1931, October 1943 to current year. Monthly discharge only for some periods, published in WSP 1316. Published as "below Little Nisqually River, near La Grande" September 1906 to October 1911, and as "near La Grande" November to December 1911 and October 1919 to September 1931.

REVISED RECORDS.--WSP 1216: Drainage area. WSP 1316: 1927-28(M), 1949-50. WRD WA-74: 1956(M), 1959-61(M), 1965.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 490 ft above NGVD of 1929, from river-profile map. See WSP 1932 for history of changes prior to Feb. 8, 1945.

REMARKS.--Records good except estimated daily discharges, which are fair. Flow regulated by Tacoma Public Utilities powerplant at La Grande since December 1943, by Alder Reservoir (station 12085000) since November 1944, and by La Grande Reservoir (station 12085500) since February 1945. All diversions returned to river upstream from gage. U.S. Geological Survey satellite telemeter at station. Chemical analyses October 1972 to September 1985. Water temperatures October 1965 to September 1982.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--80 years (water years 1907-11, 1920-31, 1944-2006), 1,429 ft³/s, 66.46 in/yr, 1,035,300 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,500 ft³/s, Feb. 8, 1996, gage height, 15.30 ft, from rating curve extended above 5,300 ft³/s, and computed flow over dam as provided by Tacoma Public Utilities; practically no flow on many days at site "near La Grande" (which excluded diversion between 1920 and 1930) as a result of regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,400 ft³/s, Jan. 11, 12, gage height, 10.05 ft; minimum discharge, 693 ft³/s, Sept. 11, gage height, 3.42 ft; minimum daily discharge 743 ft³/s, Sept. 11.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,040	1,050	1,120	2,420	5,540	2,110	1,200	1,040	1,480	1,060	979	859
2	1,040	1,040	1,120	2,420	3,080	2,090	1,190	1,030	1,830	1,060	977	859
3	1,080	1,440	1,120	2,410	4,050	1,550	1,190	1,020	1,940	1,060	958	859
4	1,080	1,870	1,120	2,400	4,270	1,530	1,200	1,050	1,920	1,060	942	855
5	996	1,880	1,120	2,400	3,080	1,520	1,200	1,070	1,900	1,070	943	e863
6	993	1,880	1,120	2,400	2,420	1,530	1,190	1,060	1,910	1,070	940	e865
7	955	1,870	1,120	2,400	2,380	1,530	1,200	1,060	1,910	1,070	953	782
8	907	1,860	1,120	2,820	2,370	1,520	1,210	1,060	1,910	1,060	942	779
9	906	2,110	1,120	5,010	2,370	1,510	1,210	1,060	1,500	1,060	915	779
10	884	2,400	1,110	10,200	2,370	1,520	1,210	1,080	1,490	1,060	869	779
11	841	2,250	1,110	12,800	2,370	1,510	1,210	1,100	1,470	1,070	870	743
12	841	1,970	1,110	11,900	2,380	1,520	1,230	1,110	1,480	1,070	898	774
13	934	1,840	1,110	9,480	2,370	1,520	1,230	1,100	1,580	1,060	869	811
14	1,050	1,750	1,110	7,440	2,380	1,320	1,050	1,100	1,730	1,060	870	761
15	1,040	1,600	1,110	5,540	2,380	1,310	1,050	1,090	1,730	1,070	875	771
16	1,000	1,270	1,100	5,500	2,360	1,310	1,050	1,210	1,480	1,060	870	765
17	977	1,120	1,100	4,740	2,400	1,320	1,040	1,410	1,440	1,060	865	759
18	1,050	1,120	1,100	2,550	2,380	1,320	1,050	1,610	1,430	1,060	865	760
19	1,040	1,110	1,100	2,420	2,370	1,310	1,040	1,790	1,430	1,060	865	761
20	1,050	1,110	1,100	2,410	2,380	1,300	1,040	1,800	1,170	1,060	864	763
21	1,040	1,170	1,100	2,430	2,390	1,310	1,030	1,600	1,090	1,060	862	893
22	1,040	1,150	1,110	2,490	2,400	1,310	1,040	1,480	1,030	1,070	864	849
23	1,040	1,110	1,410	2,440	2,410	1,180	1,030	1,480	1,030	1,060	864	748
24	986	1,120	1,980	2,460	2,100	1,190	1,030	1,480	1,030	1,060	871	750
25	935	1,130	2,150	2,430	2,070	1,190	1,040	1,470	1,020	1,060	863	752
26	937	1,120	2,150	2,420	2,070	1,170	1,040	1,460	1,030	1,070	859	752
27	934	1,120	2,320	3,070	2,080	1,170	1,040	1,220	1,030	1,080	859	747
28	935	1,120	2,410	4,060	2,100	1,180	1,040	1,220	1,050	1,080	860	757
29	935	1,120	2,410	4,040	---	1,190	1,040	1,220	1,070	1,080	864	759
30	936	1,120	2,420	6,780	---	1,170	1,040	1,230	1,060	1,060	858	751
31	1,020	---	2,430	7,890	---	1,180	---	1,390	---	1,060	859	---
Total	30,442	43,820	44,130	140,170	73,320	43,390	33,360	39,100	43,170	33,000	27,612	23,705
Mean	982	1,461	1,424	4,522	2,619	1,400	1,112	1,261	1,439	1,065	891	790
Max	1,080	2,400	2,430	12,800	5,540	2,110	1,230	1,800	1,940	1,080	979	893
Min	841	1,040	1,100	2,400	2,070	1,170	1,030	1,020	1,020	1,060	858	743
Ac-ft	60,380	86,920	87,530	278,000	145,400	86,060	66,170	77,550	85,630	65,460	54,770	47,020
Mean adjusted for change in contents in Alder and La Grande Reservoirs	524	1,706	2,146	4,774	2,041	1,086	1,634	1,722	1,473	760	458	356
CFSM adjusted for change incontents in Alder and La Grande Reservoirs	1.79	5.84	7.40	16.35	6.99	3.72	5.60	5.90	5.04	2.60	1.57	1.22
In. adjusted for change in contents Alder and La Grande Reservoirs	2.07	6.52	8.48	18.85	7.28	4.29	6.24	6.80	5.62	3.00	1.81	1.36
AC_FT adjusted for change in contents Alder and La Grande Reservoirs	32,200	101,500	132,000	293,600	113,300	66,820	97,200	105,900	87,600	46,740	28,160	21,200

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	Calendar Year 2005	Water Year 2006
Total	404,557	575,219
Mean	1,108	1,576
Max	2,430	12,800
Min	634	743
Ac-ft	802,400	1,141,000
Mean adjusted for change in contents in Alder and La Grande Reservoirs	1,147	1,555
CFSM adjusted for change incontents in Alder and La Grande Reservoirs	3.93	5.32
In. adjusted for change in contents Alder and La Grande Reservoirs	53.31	72.30
AC_FT adjusted for change in contents Alder and La Grande Reservoirs	830,200	1,126,000